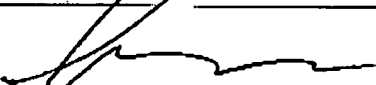


**RECEIVED  
CENTRAL FAX CENTER  
DEC 13 2006**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

APPLICANT(S) Brian K. Smith GROUP ART UNIT: 2618  
 APPLN. NO.: 10/660,066 EXAMINER: Dean, Raymond S  
 FILED: May 11, 2004 Confirmation No. 3661  
 TITLE: METHOD AND SYSTEM FOR INTERRUPTING A DISPATCH  
 CALL

CERTIFICATE OF FAX TRANSMITTAL	
I hereby certify that this correspondence is being transmitted via facsimile to the United States Patent and Trademark Office, at (571) 273-8300 Centralized Facsimile, addressed to: Mail Stop: <u>AMENDMENT</u> , Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date listed below:	
Date:	December 13, 2006
Signature:	
Typed or Printed Name:	Larry Brown

Mail Stop: AMENDMENT  
 Commissioner for Patents  
 P.O. Box 1450  
 Alexandria, VA 22313-1450

**DECLARATION OF PRIOR INVENTION IN THE UNITED STATES  
 TO OVERCOME CITED PATENT OR PUBLICATION (37 C.F.R. §1.131)**

**PURPOSE OF DECLARATION**

1. This declaration is to establish completion of the invention in this application in the United States, at a date prior to August 23, 2003, which is the effective date of the prior art:

- ☐ Publication
- ☒ Patent – U.S. Patent No. 6,980,535

That was cited by the

- ☒ Examiner
- ☐ Applicant

2. The person making this declaration is (are):

- ☒ The inventor(s)

- ☐ Only some of the joint inventor(s)  
(and a suitable excuse is attached for failure of the omitted joint inventor(s) to sign)
- ☐ The party in interest  
(and a suitable explanation as why it is not possible to produce the declaration of the inventor(s) is attached)

### **FACTS AND DOCUMENTARY EVIDENCE**

3. To establish the date of completion of the invention of this application, the following attached documents and/or models are submitted as evidence: (check all applicable items below)

- ☒ Invention disclosure form, complete with witness and supervisor acknowledgements
- ☐ Blueprints
- ☐ Photographs
- ☐ Reproduction(s) of engineering notebook entries
- ☐ Model
- ☐ Supporting statement(s) by witness(es) (where verbal disclosures are the evidence relied upon)
- ☐ Other:

4. From these documents and/or models, Declarants aver that the invention in this application was made

- ☐ On \_\_\_\_\_
- ☒ At least by the date of March 5, 2003, which is a date earlier than the effective date of the reference.

**RECEIVED**  
**CENTRAL FAX CENTER**

**DILIGENCE DEC 13 2006**

5. Listed below are statements establishing the diligence of the applicants, from the time of their conception, which is prior to the effective date of the reference, up to the:

☐ Actual reduction to practice

☒ Filing of this application

- We are the joint inventors of all claims of the above-identified patent application.
- By at least March 5, 2003, we conceived, in the United States of America, the idea of a "METHOD AND SYSTEM FOR INTERRUPTING A DISPATCH CALL" as described and claimed in our patent application. Copies of our invention disclosure, which was submitted to the Motorola patent committee on March 5, 2003, have been attached to this document. Copies of proposed embodiments of the invention, which we uploaded on March 5, 2003, are also attached. As reflected on the invention disclosure, this invention was acknowledged by witness Frederick Kampe on March 11, 2003, by witness Kevin Wells on March 5, 2003 and by Richard Wendelken, our manager, on April 21, 2003.
- In reasonably regular order and in accordance with customary procedure, the Motorola patent committee reviewed our invention disclosure and agreed to pursue a patent application for our invention in June 2003.
- In reasonably regular order and in accordance with customary procedure, our invention disclosure was assigned to outside counsel Pablo Meles, whose law firm prepared the application over the course of July and August 2003. Pablo Meles filed the patent application on September 11, 2003.

**TIME PRESENTATION OF THE DECLARATION**

(Complete (a), (b), or (c))

6.

☒ (a) This declaration is submitted prior to final rejection

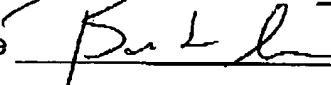
- ☐ (b) This declaration is submitted with the first response after final rejection, and is for the purpose of overcoming a new ground of rejection or requirement made in the final rejection
- ☐ (c) This declaration is submitted after final rejection. A showing under 37 C.F.R. §1.116(b) is submitted herewith

### **DECLARATION**

**7. As a person signing below:**

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

**SIGNATURES**

Full name of first-named or sole inventor	Brian K. Smith	
Inventor's signature		Date Dec 13, 2006
Residence	Wellington	Florida
	City	State or Foreign Country
Citizenship	United States	
	Country	
Post Office Address	4133 BAHIA ISLE CIRCLE	
	Street Address	
	Wellington	FL 33467
	City	State or Country Zip Code

Full name of second-named joint inventor	Floyd D. Simpson	
Inventor's signature	<u>Floyd D. Simpson</u>	Date <u>12/13/2006</u>
Residence	Lake Worth	Florida
	City	State or Foreign Country
Citizenship	United States	
	Country	
Post Office Address	5769 Lago Del Sol Drive	
	Street Address	
Lake Worth	FL	33467
City	State or Country	Zip Code

## **Materials in Support of Declaration under 37 C.F.R. 1.131**



eIntelligence - Innovation Disclosure

**Disclosure CE11386JI121 (18702)**

---

**ID:** CE11386JI121 (18702)  
**Title:** Adaptive 802.11 Probe Request Generator  
  
**Innovators:** Brian Smith, Floyd Simpson  
**Status:** Filed   
**Disposition:** Pursue   
**Submitted Date:** 5 Mar 2003  
**Review Date:** 23 Jun 2003  
**Motorola Business:** NET  
**Patent Committee:** Plantation - iDEN Subscriber Group - WLAN Low Power Techniques  
**Business Unit:** NET-iDEN Subscriber Group (ISG)  
**Organization:** GTSS, GTSS WSG, BTS COE, ISD FIX PROD  
**Department:** UA580  
**Location:** FL08  
**Submit Country:** USA

---

**Workflow**

---

Role	Name	Action
First Innovator	<u>Brian Smith</u>	<u>Verification Complete 3/5/2003</u>
Co-Innovator	<u>Floyd Simpson</u>	<u>Verification Complete 3/5/2003</u>
Witness	<u>Frederick Kampe</u>	<u>Acknowledgement Complete 3/11/2003. Notebook Not Signed</u>
Witness	<u>Kevin Wells</u>	<u>Acknowledgement Complete 3/5/2003. Notebook Not Signed</u>
Manager	<u>Richard Wendelken</u>	<u>Acknowledgement Complete 4/21/2003</u>
Technical Reviewer	<u>Wayne Ballantyne</u>	<u>Review Complete 6/3/2003</u>
Technical Reviewer	<u>David Hayes</u>	<u>Review Complete 6/11/2003</u>
Attorney Reviewer	<u>Larry Brown</u>	<u>Review Complete 6/26/2003</u>

**Reviewer Information**


---

Role	Name	Action
<u>Technical Reviewer</u>	<u>Wayne Ballantyne</u>	
<u>Technical Reviewer</u>	<u>David Hayes</u>	
<u>Attorney Reviewer</u>	<u>Larry Brown</u>	
<u>Grading Results</u>		

**Documents**

---



Document Name	Description	Document Type	Uploaded By	Uploaded Date	Size
 <a href="#">adaptive PR generator.pdf</a>	Disclosure + Example	Unspecified		5 Mar 2003	92.5 Kb

**Questions****Name of Innovation or Engineering Development?**

Adaptive 802.11 Probe Request Generator

**What is the problem(s) to be resolved by or need(s) for your idea?**

Motorola's Roaming solution includes the automatic transmission of Probe Responses at a periodic rate. The Probe Responses provide protocol and signal quality information to mobile stations. The automatic transmission of Probe Responses is a proprietary solution and should not be expected in non-partner solutions. In non-partner solutions, Motorola stations can only expect Beacon frames to provide protocol and signal quality information. If the Beacon transmission rate is not sufficient, the station would have to enter an active scan mode whereby the stations transmit Probe Requests to force the AP to transmit Probe Responses. The active scan mode wastes battery life and decreases network capacity.

**What patents or publications describe your idea and why don't they resolve the problem(s) or fulfill the need(s)?**

IEEE 802.11, 1999 Section 11.1.3 describes an active scanning mechanism whereby stations transmit Probe Requests to force the AP to transmit Probe Responses. The problem with this approach is the amount of overhead traffic generated by each device transmitting Probe Requests and the AP transmitting Probe Responses to each device. In addition, the station is wasting battery life by transmitting Probe Requests and for the additional channel sensing while contending for the channel.

**What is the idea you are disclosing? Please provide a written description summarizing the idea. Please define all acronyms and other terms of art used.**

See the attached document.

**How does this idea resolve the problem(s) or fulfill the need(s) in a new way?**

Devices do not transmit Probe Requests which saves battery life and network capacity.

**How or where will this idea be used (e.g. what process or product will it be applied to)?**

This idea can be applied to a dual mode (i.e. 802.11a or 802.11b or 802.11g + CDMA1X or GSM or IDEN) wireless device, the AP or a stand-alone device whose sole purpose is to implement this idea. A stand-alone device on legacy networks would enable Motorola's roaming solution.

Please enter one or more key words that may be used to identify your disclosure.

**Is this disclosure a resubmission of a disclosure you have previously submitted?**

NO

Please enter the forum from which this idea originated - e.g. Quest for Innovation, Advanced Inventing Session, Patent Scrub, etc. (Optional).

**Do you plan to disclose your idea outside of Motorola (e.g. conference, publication, customer meeting, product offering, etc.)?**

NO

**Is your idea known or has it been disclosed outside of Motorola without a duty of confidence (e.g., non-disclosure agreement, joint development agreement, etc.)?**

NO

Has a product incorporating your idea been sold, offered for sale, placed in production, qualification, sampled, described in any publication (including Motorola promotional literature), marketed, shipped to anyone outside of Motorola (customer or distributor), or placed into

inventory?  
NO

What is the earliest verifiable date that you communicated your idea to an individual that is NOT an innovator (e.g., the date a non-innovator witness signed your engineering notebook)?

Was your idea created or developed through work performed with a consortium, alliance, government contract, university, or joint venture?  
NO

Please specify the Export Control Classification Number(s) (ECCN) to which this disclosure pertains  
Unknown

---

**Standards**

IEEE

---

**Technology Areas**

KT - NET - 121 WLAN:Low power techniques(ISG) - (Inactive)

(Primary)

---

**TTD/Labs Project Number**

None Selected

---

**Innovators**

---

**Brian K Smith**

The address and personal information for this innovator should be treated as confidential.

Commerce ID:

Core ID:

Phone:

Fax:

Email:

Department:

Location:

Mail Drop:

Manager:

Motorola

Business

Business:

Unit:

Citizenship: USA

Residential

Mailing

Address:

Address:

---

**Floyd D Simpson**

The address and personal information for this innovator should be treated as confidential.

Commerce ID:

Core ID:

Phone:

Fax:

Email:

Department:

Location:

Mail Drop:

Manager:

Motorola

Business

Business:

Unit:

Citizenship: USA

Residential

Mailing

Address:

Address:

ver 2

Attorney-Client Privileged Upon Completion

Send any comments to: eIntelligence Contacts  
Last Updated: December 4 2006

Privacy Practices

© Copyright 2000-2005 Motorola, Inc. All Rights Reserved.  
Motorola Confidential Proprietary

---

Security Classification  
Motorola Confidential Proprietary  
(When Completed)

Disclosure No. \_\_\_\_\_ Page 1

## 1 QUESTIONS

### 1.1 Name of Innovation or Engineering Development?

Adaptive 802.11 Probe Request Generator

### 1.2 What is the problem(s) to be resolved by or need(s) for your idea?

Motorola's Roaming solution includes the automatic transmission of Probe Responses at a periodic rate. The Probe Responses provide protocol and signal quality information to mobile stations. The automatic transmission of Probe Responses is a proprietary solution and should not be expected in non-partner solutions. In non-partner solutions, Motorola stations can only expect Beacon frames to provide protocol and signal quality information. If the Beacon transmission rate is not sufficient, the station would have to enter an active scan mode whereby the stations transmit Probe Requests to force the AP to transmit Probe Responses. The active scan mode wastes battery life and decreases network capacity.

### 1.3 What patents or publications describe your idea and why don't they resolve the problem(s) or fulfill the need(s)?

IEEE 802.11, 1999 Section 11.1.3 describes an active scanning mechanism whereby stations transmit Probe Requests to force the AP to transmit Probe Responses. The problem with this approach is the amount of overhead traffic generated by each device transmitting Probe Requests and the AP transmitting Probe Responses to each device. In addition, the station is wasting battery life by transmitting Probe Requests and for the additional channel sensing while contending for the channel.

### 1.4 What is the idea you are disclosing?

A function that monitors the channel and adaptively generates Probe Requests.

#### Station Behavior

##### Synchronizing

Upon entering a BSS, a station monitors the channel to determine the current transmit rate of Probe Responses and attempts to synchronize with the existing schedule. The device performs a sliding correlation using the desired and actual Probe Response transmission rates.

Example:

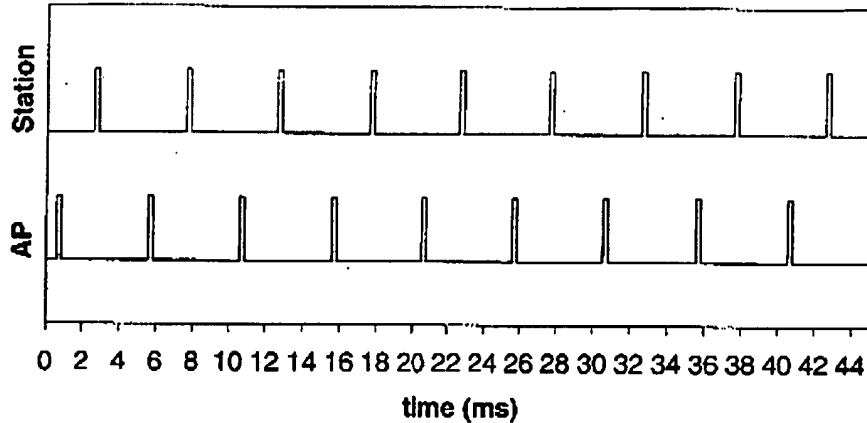
Inventor _____	Date _____	Witness _____	Date _____
Inventor _____	Date _____	Witness _____	Date _____

Security Classification  
Motorola Confidential Proprietary  
(When Completed)

Disclosure No. \_\_\_\_\_ Page 2

In this case, the desired and actual Probe Response transmission rates are the same, but the station needs to delay the start of channel monitoring by approximately 2ms to synchronize with the AP.

### Actual & Desired Probe Response Schedules



#### Example 2:

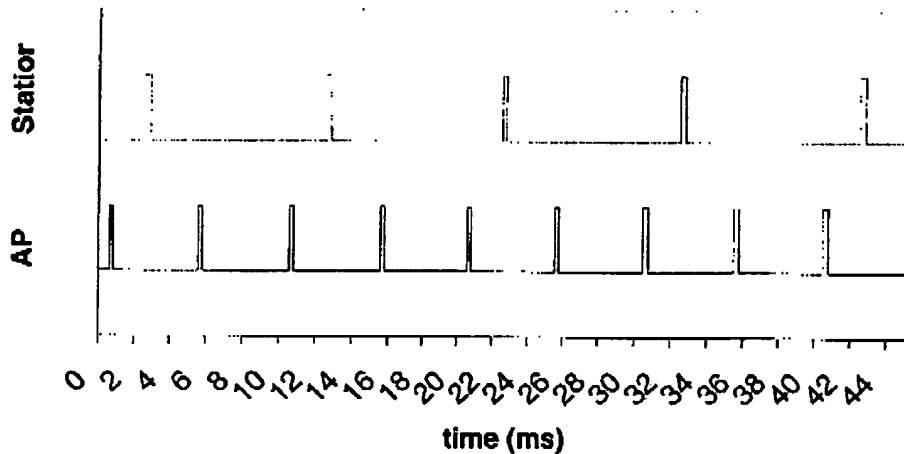
In this case, the desired and actual Probe Response transmission rates are not the same. The station needs to delay the start of channel monitoring by approximately 2ms to synchronize with the AP and temporarily transmit Probe Requests until the Adaptive Probe Response Generator detects the Probe Requests and compensates.

Inventor _____	Date _____	Witness _____	Date _____
Inventor _____	Date _____	Witness _____	Date _____

Security Classification  
Motorola Confidential Proprietary  
(When Completed)

Disclosure No. \_\_\_\_\_ Page 3

### Actual & Desired Probe Response Schedules



After synchronizing with the current Probe Response and/or Beacon transmission rate, a station monitors the channel at time,  $t_{STA}$  for a Probe Response to measure channel quality. If a Probe Response is not received from time,  $t_{STA}$  to time;  $t_{STA} + t_{window}$  then the station contends for the medium and transmits a Probe Request where  $t_{window}$  creates a time window for monitoring the channel. While contending for the channel the station continues to monitor channel traffic for a Probe Response. If a Probe Response is detected, then the station aborts the channel contention process. If a Probe Response is not detected, then the station transmits the Probe Request.

#### Adaptive Probe Request Generator (APRG)

1. The APRG continuously monitors the channel for Probe Requests.
2. When a Probe Request is detected from Station X, the time,  $t_{PR1}$  is recorded.
3. The APRG continues monitoring the channel for additional Probe Requests from Station X.
4. When the next Probe Request is detected from Station X, the time,  $t_{PR2}$  is recorded.
5. The APRG calculates the time difference between the Probe Requests to determine the period.
6. The APRG could continue to monitor the channel for additional Probe Requests to confirm the Probe Request period.
7. The APRG begins transmitting Probe Requests at the measured period referenced to the original recorded times.
8. The APRG should periodically stop transmitting Probe Requests to determine if there are stations that still require Probe Responses.

Inventor _____	Date _____	Witness _____	Date _____
Inventor _____	Date _____	Witness _____	Date _____

Security Classification  
Motorola Confidential Proprietary  
(When Completed)

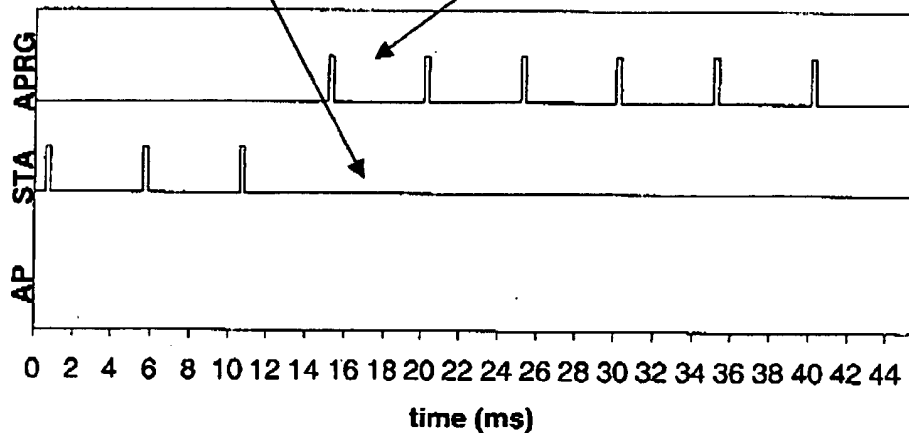
Disclosure No. \_\_\_\_\_ Page 4

The APRG function could reside within a station, the AP or a stand-alone device. If the function exists within the AP, the AP would simply transmit the Probe Responses without transmitting Probe Requests.

Example 3:

Station detects Probe Response and  
does not transmit Probe Request

APRG begins adapting by  
sending Probe Requests.



**1.5 How does this idea resolve the problem(s) or fulfill the need(s) in a new way?**

Devices do not transmit Probe Requests which saves battery life and network capacity.

**1.6 How or where will this idea be used (e.g. what process or product will it be applied to)?**

This idea can be applied to a dual mode (i.e. 802.11a or 802.11b or 802.11g + CDMA1X or GSM or IDEN) wireless device, the AP or a stand-alone device whose sole purpose is to implement this idea. A stand-alone device on legacy networks would enable our roaming solution

**1.7 Do you plan to disclose your idea outside of Motorola (e.g. conference, publication, customer meeting, product offering, etc.)?**

Select (Yes/No):

Inventor _____	Date _____	Witness _____	Date _____
Inventor _____	Date _____	Witness _____	Date _____

Security Classification  
Motorola Confidential Proprietary  
(When Completed)

Disclosure No. \_\_\_\_\_ Page 5

**1.8 Is your idea known or has it been disclosed outside of Motorola without a duty of confidence (e.g., non-disclosure agreement, joint development agreement, etc.)?**

Select (Yes/No):

**1.9 Has a product incorporating your idea been sold, offered for sale, placed in production, qualification, sampled, described in any publication (including Motorola promotional literature), marketed, shipped to anyone outside of Motorola (customer or distributor), or placed into inventory?**

Select (Yes/No):

**1.10 What is the earliest verifiable date that you communicated your idea to an individual that is NOT an innovator (e.g., the date a non-innovator witness signed your engineering notebook)?**

If engineering notebook has not been signed then enter the disclosure signature date.

**1.11 Was your idea created or developed through work performed with a consortium, alliance, government contract, university, or joint venture?**

Select (Yes/No):

## 2 KEY TECHNOLOGIES

Select one or more of the following Key Innovation Areas;

Inventor _____	Date _____	Witness _____	Date _____
Inventor _____	Date _____	Witness _____	Date _____